

**GW Wells Monitoring Report
Semi-Annual Wells
February, 1999**

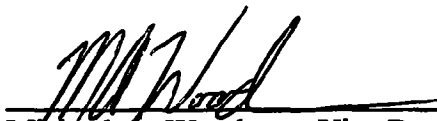
**NEVADA GOLDFIELDS
McCormick, SC**

MAY 19 1999
HYDROGEOLOGY

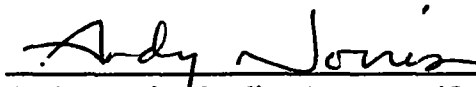
SIGNATURE PAGE

This report, "Groundwater Sampling and Analytical Procedures Report for Semi-Annual Wells February, 1999," has been prepared in accordance with accepted quality control practices at the request of and for the exclusive use of **NEVADA GOLDFIELDS**. The report has been reviewed by the undersigned reviewers.

SHEALY ENVIRONMENTAL SERVICES, INC.

A handwritten signature in dark ink, appearing to read "M. Woodrum", is written over a horizontal line.

Michael A. Woodrum, Vice President of Analytical Services
March 3, 1999

A handwritten signature in dark ink, appearing to read "Andy Norris", is written over a horizontal line.

Andy Norris, Quality Assurance/Quality Control Officer
March 3, 1999

TABLE OF CONTENTS

I. INTRODUCTION

I.A. MONITORING PARAMETERS AND FREQUENCY

I.B. SAMPLING PROTOCOL

I.B.1. Water Level Measurement

I.B.2. Total Depth Measurement

I.B.3. Well Evacuation

I.B.4. Sample Collection

I.C. FIELD QUALITY CONTROL

I.C.1. Field Cleaning Procedures

I.C.2. Field Instruments and Measuring Devices

I.C.3. Field Blanks

I.C.4. Field Data Information Sheet

I.C.5. Sample Transportation and Chain of Custody

II. ANALYTICAL PROTOCOL

II.A. ATTACHMENTS

Attachment I Analytical Results

Attachment II Depth to Groundwater Summary

Attachment III Chain of Custody Forms

Attachment IV Field Data Information Sheets

Attachment V Analytical Methodology

GROUNDWATER SAMPLING AND ANALYTICAL PROCEDURES REPORT

**Semi- Annual Wells
February, 1999**

**NEVADA GOLDFIELDS, INC.
McCormick, SC**

I. INTRODUCTION

This report describes the procedures followed by **SHEALY ENVIRONMENTAL SERVICES, INC. (SHEALY)** during the sampling and analysis of groundwater at **NEVADA GOLDFIELDS, McCormick, SC**. The report includes procedures for:

1. Sample collection
2. Sample preservation
3. Chain-of-Custody control
4. Analytical protocol

These procedures were developed by **SHEALY** to comply with the sampling procedures recommended by **SCDHEC**, the **US Environmental Protection Agency (EPA)**, the **Resource Conservation and Recovery Act (RCRA)**, **Groundwater Monitoring Technical Enforcement Guidance Document (TEGD)** (1986), and published research findings. The protocol described was designed to insure that the integrity of the samples were maintained in the field, during transit to the laboratory and throughout the analytical procedures.

I.A. MONITORING PARAMETERS AND FREQUENCY

The following wells were sampled during February, 1999:

D-3	GW-N	GW-O	GW-5	L-2	F-3
A-3	GW-6	B-2			

These monitoring wells were analyzed for the following parameters:

*Alkalinity	*Ammonia-N	*Chloride	*Cyanide
*Fluoride	*Nitrate-N	*Nitrite-N	*TOC
*TDS			

*Metals: Aluminum, Arsenic, Barium, Cadmium, Calcium, Chromium, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Zinc, Dissolved Copper

I.B. SAMPLING PROTOCOL

The procedures described below are intended to insure that representative groundwater samples are collected. Procedures for measurement of the water table depth, measurement of total well depth, well evacuation, and sample collection are included.

For each well, all data collected were recorded on a Field Data Information Sheet. Prior to the initiation of activities at each well, all sampling personnel put on new, laboratory quality PVC gloves. These gloves were replaced as necessary during the well evacuation and sampling procedure. Prior to the collection of any groundwater quality data at each well, the surface integrity of the well was checked. Any problems which could affect groundwater sample integrity were noted on the Field Data Information Sheet.

I.B.1. Water Level Measurement

Prior to the evacuation of each monitoring well, the depth to the water table was determined with the use of an electronic water level indicator. The water level indicator uses a sensitive circuitry to activate a buzzer when electrical continuity is made at the probe. The sensitivity is set so that waters with conductivities greater than approximately one umhos/cm will close the circuit. After use at each well, the instrument was cleaned according to the "Field Cleaning Procedures," which are described in Section I.C.1. The depth to the water table was measured by turning the instrument on and then slowly lowering the instrument probe into the well until the buzzer sounded. The distance from the measuring point of the well to the water level was then measured and recorded. The instrument was calibrated in 0.05 foot increments. All measurements were made and estimated to the nearest 0.01 foot.

I.B.2. Total Depth Measurement

The total depth measurement is used in calculating the volume of water standing in the well casing. The total well depth was taken from historical data.

I.B.3. Well Evacuation

The purpose of the well evacuation procedure is to initiate the introduction of water from the surrounding aquifer into which the well is placed. By removing standing water from the well, a hydraulic gradient is created which results in water from the surrounding aquifer into the well. The quality of this water is representative of the water quality immediately surrounding the well.

Well evacuation and sampling of all wells at the site were done using 1.66 inch outside diameter, three foot long Teflon or stainless steel bailers with a single bottom check valve. All bailers were cleaned at the laboratory prior to use, and a separate bailer was used for each well. When field cleaning was required, the method outlined in Section I.C.1. was used and new 1/8 inch nylon twine was used for each well.

The following steps were followed for evacuation with Teflon bailers:

1. The depth to the water table was subtracted from the total well depth to determine the length of the water column. The water column length was multiplied by the appropriate conversion factor for that particular well casing diameter to determine the volume, in gallons, of water standing in the well casing. This volume was then multiplied by three to calculate the standard evacuation volume.
2. The bailer was lowered to a depth just below the water level in the well each time to insure adequate evacuation of the standing water.
3. The pH and Specific Conductivity were measured and recorded periodically during well evacuation. For high yield wells, well evacuation continued until the standard evacuation volume was removed and both pH and Specific Conductivity were relatively stable. Stability of the pH is defined as two consecutive measurements varying by no more than 10 percent. All evacuated volumes and field measurements were recorded on the Field Data Information Sheet.

Wells which were evacuated to dryness prior to reaching the standard evacuation volume were sampled as soon as a sufficient volume of water had entered the well. Field parameters were measured prior to sample collection to insure water quality stability.

I.B.4. Sample Collection

The primary consideration during the collection of groundwater samples is to insure that the sample is not altered or contaminated during withdrawal from the well and introduction into the sample container.

A complete set of pre-cleaned and pre-labeled sample containers were removed from the cooler and slowly filled with fresh sample, poured directly from the bailer. Preservatives were added to the sample bottles prior to leaving for the sampling event. Care was taken to insure that the bailer did not contact the sample bottle during filling. The filled bottles were then capped and securely placed into the pre-cleaned cooler. The Chain of Custody Form, was then completed for that well. Finally, the well was re-capped and locked.

I.C. FIELD QUALITY CONTROL

A strict quality control program is followed in the field by SHEALY to insure that sample integrity is maintained during sample collection and transit to the laboratory. In addition, all equipment and instruments are carefully maintained and calibrated in accordance with schedules and procedures described in SHEALY's Quality Control Manual entitled "SOP and QA Manual for Groundwater Sampling".

I.C.1. Field Cleaning Procedures

All field equipment and instrumentation are cleaned at the laboratory according to standard laboratory procedures upon return from each sampling trip. Field equipment and instrumentation include: sample coolers, pH and Specific Conductivity meters, and field measurement vessels. If instrumentation and field equipment were used on more than one well, it was cleaned according to the following field cleaning procedures:

1. Rinse item thoroughly with a 5% phosphate-free laboratory detergent solution.
2. Rinse item with deionized water, twice.

I.C.2. Field Instruments and Measuring Devices

Instruments and devices used to collect field data at the NEVADA GOLDFIELDS facility include: pH and Specific Conductivity meters and an electronic water level indicator.

The pH and Specific Conductivity meters were calibrated in the field prior to sampling. The pH meter was calibrated using a 4 SU standard and a 10 SU standard. The Specific Conductivity meter was also calibrated in the field according to SHEALY's Field Operation SOP and the manufacturer's specifications. All calibration records for both meters are recorded in the appropriate calibration log books maintained at Shealy.

I.C.3. Field Blanks

One set of field blanks was collected during the sampling event. At that time, one set of bottles was randomly removed from the sample cooler and labeled as "Field Blank". The Field Blank was obtained by filling a laboratory cleaned bailer with deionized water. This water was then poured into the labeled sample bottles. The deionized water is also used to rinse field equipment. Once filled, the field blanks were treated as samples and placed in the sample cooler for transport to the laboratory. Field blanks and groundwater samples were analyzed for the same parameters in order to assure quality control during sampling, transportation, and analysis.

I.C.4. Field Data Information Sheet



All pertinent field information was recorded on the Field Data Information Sheet as it was collected. This information includes: date of sampling, name of collector, monitoring well number, casing diameter and material of construction, well integrity, measuring point elevation, total well depth, depth to groundwater, volume of water in casing, method of evacuation and sampling, total volume of water evacuated, field measurements with time and volume evacuated, and field observations. Information on the Field Data Information Sheets was reviewed upon arrival at the laboratory and pertinent information transferred to the Certificate of analysis and noted as field measurements.

I.C.5. Sample Transportation and Chain of Custody

The transportation of groundwater samples from the time of collection to their arrival at the laboratory is an important part of the groundwater monitoring program. The mode of travel must be such that the sample is not altered physically, chemically, or biologically. The travel time to the laboratory must not interfere with the sample holding time. The Chain of Custody must also be maintained during the transportation process. Samples collected at the NEVADA GOLDFIELDS facility remained in the possession of SHEALY personnel and were transported to the laboratory within the allowed holding time of all the required parameters. Custody is defined as:

1. Being in one's physical possession.
2. Being in one's view, after being in one's possession.
3. Being in a designated secure area.

Upon arrival at the laboratory, the sampling personnel relinquished the samples to the laboratory sample custodian. This transaction was documented on the Chain of Custody Form.

Reviewed By:  for  3/3/99
Milton P. Quattlebaum Date
Field Service Supervisor

II. ANALYTICAL PROTOCOL

The analytical protocols used at SHEALY to insure that groundwater quality at the NEVADA GOLDFIELDS facility was accurately detected and quantified were taken from two EPA sources, Methods for Chemical Analyses of Water and Wastes and Test Methods for Evaluation Solid Waste. The analysis for metals was for the total recoverable fraction. Laboratory Quality Control/Quality Assurance procedures are presented in detail in the SHEALY's SOP Manuals.

SHEALY ENVIRONMENTAL SERVICES, INC.

Scientists and Consultants

106 VANTAGE POINT DRIVE
CAYCE, SOUTH CAROLINA 29033

CERTIFICATE OF ANALYSIS

(803) 791-9700
FAX (803) 791-9111
www.shealyenvironmental.com

SC DHEC No. 32010

NC DEHNR No. 329

Client: NEVADA GOLDFIELDS
PO Box 1530
McCormick, SC 29835

Attention: Scott Wilkinson

SHEALY Lab No: 157516
Description: A-3

Coll. Date: 02/02/99
Coll. Time: 1145

Date Received: 02/02/99
Date Reported: 02/18/99
Date Revised: 03/26/99

QA/QC Officer MA
V.P. Analytical MA

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Well Depth		73.10	ft.		02/02/99	GWS
Water Level Depth From Top of Casing		30.85	ft.		02/02/99	GWS
pH-Field at 15.0 C	150.1	5.04	SU		02/02/99	GWS
Specific Conductance at 25 C - Field	120.1	18.5	umhos/cm		02/02/99	GWS
Temperature-Field	170.1	15.0	C		02/02/99	GWS
INORGANICS						
Alkalinity Bicarbonate	SM4500D	<10.0	mg/l		02/03/99	NWD 1344
Ammonia-N	350.3	0.337	mg/l		02/04/99	MCM 0830
Chloride	300.0	4.41	mg/l		02/04/99	JPS 1300
Cyanide-Total	335.2	<0.010	mg/l	02/15/99	02/15/99	JPS 0800
Fluoride-Total	300.0	<0.500	mg/l		02/04/99	JPS 1300
Nitrate-N	353.2	0.125	mg/l		02/02/99	NWD 0940
Nitrite-N	354.1	<0.020	mg/l		02/02/99	NWD 0940
Sulfate	300.0	8.28	mg/l		02/04/99	JPS 1300
TOC	415.1	<1.0	mg/l		02/16/99	JPS 0800
TDS	160.1	<10	mg/l		02/03/99	MCM 1530
METALS						
Aluminum	6010B	0.165	mg/l	02/04/99	02/10/99	FTS 0830 1202
Arsenic	6010B	<0.005	mg/l	02/04/99	02/10/99	FTS 0830 1202
Barium	6010B	0.162	mg/l	02/04/99	02/10/99	FTS 0830 1202
Cadmium	6010B	<0.002	mg/l	02/04/99	02/10/99	FTS 0830 1202
Calcium	6010B	0.201	mg/l	02/04/99	02/10/99	FTS 0830 1202
Chromium	6010B	<0.005	mg/l	02/04/99	02/10/99	FTS 0830 1202
Copper	6010B	0.012	mg/l	02/04/99	02/10/99	FTS 0830 1202
Iron	6010B	<0.050	mg/l	02/04/99	02/10/99	FTS 0830 1202
Lead	6010B	<0.003	mg/l	02/04/99	02/10/99	FTS 0830 1202
Magnesium	6010B	0.208	mg/l	02/04/99	02/10/99	FTS 0830 1202

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Manganese	200.7	<0.010	mg/l	02/04/99 0830	02/10/99 1202	FTS
Mercury	7470A	<0.0002	mg/l	02/17/99 0830	02/17/99 1500	FTC
Nickel	6010B	<0.010	mg/l	02/04/99 0830	02/10/99 1202	FTS
Potassium	6010B	<0.200	mg/l	02/04/99 0830	02/10/99 1202	FTS
Selenium	6010B	<0.005	mg/l	02/04/99 0830	02/10/99 1202	FTS
Silver	6010B	<0.005	mg/l	02/04/99 0830	02/10/99 1202	FTS
Sodium	6010B	<0.100	mg/l	02/04/99 0830	02/10/99 1202	FTS
Zinc	6010B	0.018	mg/l	02/04/99 0830	02/10/99 1202	FTS
Dissolved Copper	6010B	<0.005	mg/l	02/04/99 0830	02/10/99 1157	FTS

SHEALY ENVIRONMENTAL SERVICES, INC.

Scientists and Consultants

106 VANTAGE POINT DRIVE
CAYCE, SOUTH CAROLINA 29033

CERTIFICATE OF ANALYSIS

(803) 791-9700
FAX (803) 791-9111
www.shealyenvironmental.com

SC DHEC No. 32010

NC DEHNR No. 329

Client: NEVADA GOLDFIELDS
PO Box 1530
McCormick, SC 29835

Attention: Scott Wilkinson

SHEALY Lab No: 157914
Description: D-3

Coll. Date: 02/04/99
Coll. Time:

Date Received: 02/05/99
Date Reported: 03/02/99

QA/QC Officer MA
V.P. Analytical MA

*** SCDHEC Cert. #40111

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Well Depth		81.00	ft.		02/04/99	GWS
Water Level Depth From Top of Casing		31.50	ft.		02/04/99	GWS
pH-Field at 19.0 C	150.1	6.43	SU		02/04/99	GWS
Specific Conductance at 25 C - Field	120.1	508	umhos/cm		02/04/99	GWS
Temperature-Field	170.1	19.0	C		02/04/99	GWS
INORGANICS						
Alkalinity Bicarbonate	SM4500D	113	mg/l		02/13/99	NWD 0934
Ammonia-N	350.3	<0.100	mg/l		02/09/99	EDN 0900
Chloride	300.0	78.5	mg/l		02/11/99	JPS 1400
Cyanide-Total	335.2	<0.010	mg/l	02/17/99 0830	02/18/99	JPS 1200
Fluoride-Total	300.0	<0.500	mg/l		02/09/99	JPS 1200
Nitrate-N	353.2	0.122	mg/l		02/05/99	NWD 0938
Nitrite-N	354.1	<0.020	mg/l		02/05/99	NWD 0938
Sulfate	375.4	5.5	mg/l		02/09/99	JPS 1200
TOC	415.1	<1.00	mg/l		02/26/99	***
TDS	160.1	296	mg/l		02/08/99	MCM 1425
METALS						
Aluminum	6010B	0.281	mg/l	02/09/99 0830	02/12/99	FTS 1842
Arsenic	6010B	<0.005	mg/l	02/09/99 0830	02/12/99	FTS 1842
Barium	6010B	0.005	mg/l	02/09/99 0830	02/12/99	FTS 1842
Cadmium	6010B	<0.002	mg/l	02/09/99 0830	02/12/99	FTS 1842
Calcium	6010B	49.6	mg/l	02/09/99 0830	02/12/99	FTS 1842
Chromium	6010B	0.009	mg/l	02/09/99 0830	02/12/99	FTS 1842
Copper	6010B	<0.005	mg/l	02/09/99 0830	02/12/99	FTS 1842
Iron	6010B	0.378	mg/l	02/09/99 0830	02/12/99	FTS 1842
Lead	6010B	<0.003	mg/l	02/09/99 0830	02/12/99	FTS 1842
Magnesium	6010B	18.0	mg/l	02/09/99 0830	02/12/99	FTS 1842
Manganese	6010B	0.057	mg/l	02/09/99 0830	02/12/99	FTS 1842

Parameters	Method	Result	Units	Date	Date	Anal.
				Prepared	Analyzed	
Mercury	7470A	<0.0001	mg/l	02/11/99 0830	02/12/99 0900	FTC
Nickel	6010B	0.018	mg/l	02/09/99 0830	02/12/99 1842	FTS
Potassium	6010B	1.28	mg/l	02/09/99 0830	02/17/99 1535	FTS
Selenium	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1842	FTS
Silver	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1842	FTS
Sodium	6010B	21.6	mg/l	02/09/99 0830	02/12/99 1842	FTS
Zinc	6010B	0.025	mg/l	02/09/99 0830	02/12/99 1842	FTS
Dissolved Copper	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1837	FTS

SHEALY ENVIRONMENTAL SERVICES, INC.

Scientists and Consultants

106 VANTAGE POINT DRIVE
CAYCE, SOUTH CAROLINA 29033

CERTIFICATE OF ANALYSIS

(803) 791-9700
FAX (803) 791-9111
www.shealyenvironmental.com

SC DHEC No. 32010

NC DEHNR No. 329

Client: NEVADA GOLDFIELDS
PO Box 1530
McCormick, SC 29835

Attention: Scott Wilkinson

SHEALY Lab No: 157917
Description: GW-N

Coll. Date: 02/04/99
Coll. Time:

Date Received: 02/05/99
Date Reported: 03/02/99

QA/QC Officer *MA*
V.P. Analytical *MA*

*** SCDHEC Cert. #40111

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Well Depth		27.02	ft.		02/04/99	GWS
Water Level Depth From Top of Casing		12.0	ft.		02/04/99	GWS
pH-Field at 17.0 C	150.1	6.86	SU		02/04/99	GWS
Specific Conductance at 25 C - Field	120.1	472	umhos/cm		02/04/99	GWS
Temperature-Field	170.1	17.0	C		02/04/99	GWS
INORGANICS						
Alkalinity Bicarbonate	SM4500D	168	mg/l		02/13/99	NWD 0934
Ammonia-N	350.3	<0.100	mg/l		02/09/99	EDN 0900
Chloride	300.0	53.5	mg/l		02/11/99	JPS 1400
Cyanide-Total	335.2	<0.010	mg/l	02/17/99 0830	02/18/99	JPS 1200
Fluoride-Total	300.0	<0.500	mg/l		02/09/99	JPS 1200
Nitrate-N	353.2	0.100	mg/l		02/05/99	NWD 0938
Nitrite-N	354.1	<0.020	mg/l		02/05/99	NWD 0938
Sulfate	375.4	23.4	mg/l		02/09/99	JPS 1200
TOC	415.1	<1.00	mg/l		02/26/99	***
TDS	160.1	52	mg/l		02/08/99	MCM 1425
METALS						
Aluminum	6010B	0.487	mg/l	02/09/99 0830	02/12/99	FTS 1928
Arsenic	6010B	<0.005	mg/l	02/09/99 0830	02/12/99	FTS 1928
Barium	6010B	0.006	mg/l	02/09/99 0830	02/12/99	FTS 1928
Cadmium	6010B	<0.002	mg/l	02/09/99 0830	02/12/99	FTS 1928
Calcium	6010B	32.3	mg/l	02/09/99 0830	02/12/99	FTS 1928
Chromium	6010B	<0.005	mg/l	02/09/99 0830	02/12/99	FTS 1928
Copper	6010B	<0.005	mg/l	02/09/99 0830	02/12/99	FTS 1928
Iron	6010B	0.267	mg/l	02/09/99 0830	02/12/99	FTS 1928
Lead	6010B	<0.003	mg/l	02/09/99 0830	02/12/99	FTS 1928
Magnesium	6010B	26.4	mg/l	02/09/99 0830	02/12/99	FTS 1928
Manganese	6010B	0.026	mg/l	02/09/99 0830	02/12/99	FTS 1928

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Mercury	7470A	<0.0001	mg/l	02/11/99 0830	02/12/99 0900	FTC
Nickel	6010B	<0.010	mg/l	02/09/99 0830	02/12/99 1928	FTS
Potassium	6010B	0.714	mg/l	02/09/99 0830	02/17/99 1543	FTS
Selenium	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1928	FTS
Silver	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1928	FTS
Sodium	6010B	43.0	mg/l	02/09/99 0830	02/12/99 1928	FTS
Zinc	6010B	0.014	mg/l	02/09/99 0830	02/12/99 1928	FTS
Dissolved Copper	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1923	FTS

SHEALY ENVIRONMENTAL SERVICES, INC.

Scientists and Consultants

106 VANTAGE POINT DRIVE
CAYCE, SOUTH CAROLINA 29033

CERTIFICATE OF ANALYSIS

(803) 791-9700
FAX (803) 791-9111
www.shealyenvironmental.com

SC DHEC No. 32010

NC DEHNR No. 329

Client: NEVADA GOLDFIELDS
PO Box 1530
McCormick, SC 29835

Attention: Scott Wilkinson

SHEALY Lab No: 157519
Description: GW 0

Coll. Date: 02/02/99
Coll. Time: 1420

Date Received: 02/02/99
Date Reported: 02/18/99
Date Revised: 03/26/99

QA/QC Officer MA
V.P. Analytical MA

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Well Depth		28.62	ft.		02/02/99	GWS
Water Level Depth From Top of Casing		20.05	ft.		02/02/99	GWS
pH-Field at 17.0 C	150.1	6.70	SU		02/02/99	GWS
Specific Conductance at 25 C - Field	120.1	390	umhos/cm		02/02/99	GWS
Temperature-Field	170.1	17.0	C		02/02/99	GWS
INORGANICS						
Alkalinity Bicarbonate	SM4500D	128	mg/l		02/03/99	NWD 1344
Ammonia-N	350.3	0.313	mg/l		02/04/99	MCM 0830
Chloride	300.0	69.8	mg/l		02/09/99	JPS 1200
Cyanide-Total	335.2	<0.010	mg/l	02/15/99	02/15/99	JPS 0800 1000
Fluoride-Total	300.0	<0.500	mg/l		02/04/99	JPS 1300
Nitrate-N	353.2	0.120	mg/l		02/02/99	NWD 0940
Nitrite-N	354.1	0.023	mg/l		02/02/99	NWD 0940
Sulfate	300.0	32.3	mg/l		02/04/99	JPS 1300
TOC	415.1	<1.0	mg/l		02/16/99	JPS 0800
TDS	160.1	334	mg/l		02/03/99	MCM 1530
METALS						
Aluminum	6010B	0.352	mg/l	02/04/99	02/10/99	FTS 0830 1514
Arsenic	6010B	<0.005	mg/l	02/04/99	02/10/99	FTS 0830 1514
Barium	6010B	0.018	mg/l	02/04/99	02/10/99	FTS 0830 1514
Cadmium	6010B	<0.002	mg/l	02/04/99	02/10/99	FTS 0830 1514
Calcium	6010B	42.5	mg/l	02/04/99	02/10/99	FTS 0830 1514
Chromium	6010B	<0.005	mg/l	02/04/99	02/10/99	FTS 0830 1514
Copper	6010B	<0.005	mg/l	02/04/99	02/10/99	FTS 0830 1514
Iron	6010B	0.078	mg/l	02/04/99	02/10/99	FTS 0830 1514
Lead	6010B	<0.003	mg/l	02/04/99	02/10/99	FTS 0830 1514
Magnesium	6010B	22.8	mg/l	02/04/99	02/10/99	FTS 0830 1514

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Manganese	200.7	<0.010	mg/l	02/04/99 0830	02/10/99 1514	FTS
Mercury	7470A	<0.0002	mg/l	02/17/99 0830	02/17/99 1500	FTC
Nickel	6010B	<0.010	mg/l	02/04/99 0830	02/10/99 1514	FTS
Potassium	6010B	1.40	mg/l	02/04/99 0830	02/10/99 1514	FTS
Selenium	6010B	<0.005	mg/l	02/04/99 0830	02/10/99 1514	FTS
Silver	6010B	<0.005	mg/l	02/04/99 0830	02/10/99 1514	FTS
Sodium	6010B	27.3	mg/l	02/04/99 0830	02/10/99 1514	FTS
Zinc	6010B	0.011	mg/l	02/04/99 0830	02/10/99 1514	FTS
Dissolved Copper	6010B	<0.005	mg/l	02/04/99 0830	02/10/99 1308	FTS

SHEALY ENVIRONMENTAL SERVICES, INC.

Scientists and Consultants

106 VANTAGE POINT DRIVE
CAYCE, SOUTH CAROLINA 29033

CERTIFICATE OF ANALYSIS

(803) 791-9700
FAX (803) 791-9111
www.shealyenvironmental.com

SC DHEC No. 32010

NC DEHNR No. 329

Client: NEVADA GOLDFIELDS
PO Box 1530
McCormick, SC 29835

Attention: Scott Wilkinson

SHEALY Lab No: 157518
Description: GW 5

Coll. Date: 02/02/99
Coll. Time: 1330

Date Received: 02/02/99
Date Reported: 02/18/99
Date Revised: 03/26/99

QA/QC Officer MA
V.P. Analytical MA

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Well Depth		37.80	ft.		02/02/99	GWS
Water Level Depth From Top of Casing		10.80	ft.		02/02/99	GWS
pH-Field at 15.0 C	150.1	7.10	SU		02/02/99	GWS
Specific Conductance at 25 C - Field	120.1	371	umhos/cm		02/02/99	GWS
Temperature-Field	170.1	15.0	C		02/02/99	GWS
INORGANICS						
Alkalinity Bicarbonate	SM4500D	177	mg/l		02/03/99	NWD 1344
Ammonia-N	350.3	0.452	mg/l		02/04/99	MCM 0830
Chloride	300.0	45.7	mg/l		02/04/99	JPS 1300
Cyanide-Total	335.2	<0.010	mg/l	02/15/99	02/15/99	JPS 0800 1000
Fluoride-Total	300.0	<0.500	mg/l		02/04/99	JPS 1300
Nitrate-N	353.2	0.035	mg/l		02/02/99	NWD 0940
Nitrite-N	354.1	0.028	mg/l		02/02/99	NWD 0940
Sulfate	300.0	9.54	mg/l		02/04/99	JPS 1300
TOC	415.1	<1.0	mg/l		02/16/99	JPS 0800
TDS	160.1	268	mg/l		02/03/99	MCM 1530
METALS						
Aluminum	6010B	8.68	mg/l	02/04/99	02/10/99	FTS 0830 1303
Arsenic	6010B	<0.005	mg/l	02/04/99	02/10/99	FTS 0830 1303
Barium	6010B	0.538	mg/l	02/04/99	02/10/99	FTS 0830 1303
Cadmium	6010B	<0.002	mg/l	02/04/99	02/10/99	FTS 0830 1303
Calcium	6010B	61.5	mg/l	02/04/99	02/10/99	FTS 0830 1303
Chromium	6010B	0.009	mg/l	02/04/99	02/10/99	FTS 0830 1303
Copper	6010B	0.038	mg/l	02/04/99	02/10/99	FTS 0830 1303
Iron	6010B	9.83	mg/l	02/04/99	02/10/99	FTS 0830 1303
Lead	6010B	0.006	mg/l	02/04/99	02/10/99	FTS 0830 1303
Magnesium	6010B	35.5	mg/l	02/04/99	02/10/99	FTS 0830 1303

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Manganese	200.7	2.78	mg/l	02/04/99 0830	02/10/99 1303	FTS
Mercury	7470A	<0.0002	mg/l	02/17/99 0830	02/17/99 1500	FTC
Nickel	6010B	0.028	mg/l	02/04/99 0830	02/10/99 1303	FTS
Potassium	6010B	0.833	mg/l	02/04/99 0830	02/10/99 1303	FTS
Selenium	6010B	<0.005	mg/l	02/04/99 0830	02/10/99 1303	FTS
Silver	6010B	<0.005	mg/l	02/04/99 0830	02/10/99 1303	FTS
Sodium	6010B	29.4	mg/l	02/04/99 0830	02/10/99 1303	FTS
Zinc	6010B	0.100	mg/l	02/04/99 0830	02/10/99 1303	FTS
Dissolved Copper	6010B	<0.005	mg/l	02/04/99 0830	02/10/99 1258	FTS

SHEALY ENVIRONMENTAL SERVICES, INC.

Scientists and Consultants

106 VANTAGE POINT DRIVE
CAYCE, SOUTH CAROLINA 29033

CERTIFICATE OF ANALYSIS

(803) 791-9700
FAX (803) 791-9111
www.shealyenvironmental.com

SC DHEC No. 32010

NC DEHNR No. 329

Client: NEVADA GOLDFIELDS
PO Box 1530
McCormick, SC 29835

Attention: Scott Wilkinson

SHEALY Lab No: 157517
Description: L-2

Coll. Date: 02/02/99
Coll. Time: 1255

Date Received: 02/02/99
Date Reported: 02/18/99
Date Revised: 03/26/99

QA/QC Officer *ms*
V.P. Analytical *MA*

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Well Depth		81.91	ft.		02/02/99	GWS
Water Level Depth From Top of Casing		30.10	ft.		02/02/99	GWS
pH-Field at 17.0 C	150.1	6.96	SU		02/02/99	GWS
Specific Conductance at 25 C - Field	120.1	319	umhos/cm		02/02/99	GWS
Temperature-Field	170.1	17.0	C		02/02/99	GWS
INORGANICS						
Alkalinity Bicarbonate	SM4500D	132	mg/l		02/03/99	NWD 1344
Ammonia-N	350.3	0.321	mg/l		02/04/99	MCM 0830
Chloride	300.0	42.3	mg/l		02/09/99	JPS 1200
Cyanide-Total	335.2	<0.010	mg/l	02/15/99	02/15/99	JPS 0800 1000
Fluoride-Total	300.0	<0.500	mg/l		02/04/99	JPS 1300
Nitrate-N	353.2	0.127	mg/l		02/02/99	NWD 0940
Nitrite-N	354.1	<0.020	mg/l		02/02/99	NWD 0940
Sulfate	300.0	4.97	mg/l		02/04/99	JPS 1300
TOC	415.1	<1.0	mg/l		02/16/99	JPS 0800
TDS	160.1	340	mg/l		02/03/99	MCM 1530
METALS						
Aluminum	6010B	0.110	mg/l	02/04/99	02/10/99	FTS 0830 1253
Arsenic	6010B	<0.005	mg/l	02/04/99	02/10/99	FTS 0830 1253
Barium	6010B	<0.005	mg/l	02/04/99	02/10/99	FTS 0830 1253
Cadmium	6010B	<0.002	mg/l	02/04/99	02/10/99	FTS 0830 1253
Calcium	6010B	47.0	mg/l	02/04/99	02/10/99	FTS 0830 1253
Chromium	6010B	<0.005	mg/l	02/04/99	02/10/99	FTS 0830 1253
Copper	6010B	<0.005	mg/l	02/04/99	02/10/99	FTS 0830 1253
Iron	6010B	<0.050	mg/l	02/04/99	02/10/99	FTS 0830 1253
Lead	6010B	<0.003	mg/l	02/04/99	02/10/99	FTS 0830 1253
Magnesium	6010B	16.8	mg/l	02/04/99	02/10/99	FTS 0830 1253

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Manganese	200.7	<0.010	mg/l	02/04/99 0830	02/10/99 1253	FTS
Mercury	7470A	<0.0002	mg/l	02/17/99 0830	02/17/99 1500	FTC
Nickel	6010B	<0.010	mg/l	02/04/99 0830	02/10/99 1253	FTS
Potassium	6010B	0.343	mg/l	02/04/99 0830	02/10/99 1253	FTS
Selenium	6010B	<0.005	mg/l	02/04/99 0830	02/10/99 1253	FTS
Silver	6010B	<0.005	mg/l	02/04/99 0830	02/10/99 1253	FTS
Sodium	6010B	18.6	mg/l	02/04/99 0830	02/10/99 1253	FTS
Zinc	6010B	<0.005	mg/l	02/04/99 0830	02/10/99 1253	FTS
Dissolved Copper	6010B	<0.005	mg/l	02/04/99 0830	02/10/99 1248	FTS

SHEALY ENVIRONMENTAL SERVICES, INC.

Scientists and Consultants

106 VANTAGE POINT DRIVE
CAYCE, SOUTH CAROLINA 29033

CERTIFICATE OF ANALYSIS

(803) 791-9700
FAX (803) 791-9111
www.shealyenvironmental.com
NC DEHNR No. 329

SC DHEC No. 32010

Client: NEVADA GOLDFIELDS
PO Box 1530
McCormick, SC 29835

Attention: Scott Wilkinson

SHEALY Lab No: 157918
Description: F-3

Coll. Date: 02/04/99
Coll. Time:

Date Received: 02/05/99
Date Reported: 03/02/99

QA/QC Officer MA
V.P. Analytical MA

*** SCDHEC Cert. #40111

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Well Depth		71.35	ft.		02/04/99	GWS
Water Level Depth From Top of Casing		42.45	ft.		02/04/99	GWS
pH-Field at 18.0 C	150.1	5.63	SU		02/04/99	GWS
Specific Conductance at 25 C - Field	120.1	58	umhos/cm		02/04/99	GWS
Temperature-Field	170.1	18.0	C		02/04/99	GWS
INORGANICS						
Alkalinity Bicarbonate	SM4500D	<10.0	mg/l		02/13/99	NWD 0934
Ammonia-N	350.3	<0.100	mg/l		02/09/99	EDN 0900
Chloride	300.0	3.87	mg/l		02/09/99	JPS 1200
Cyanide-Total	335.2	<0.010	mg/l	02/17/99 0830	02/18/99	JPS 1200
Fluoride-Total	300.0	<0.500	mg/l		02/09/99	JPS 1200
Nitrate-N	353.2	0.066	mg/l		02/05/99	NWD 0938
Nitrite-N	354.1	<0.020	mg/l		02/05/99	NWD 0938
Sulfate	375.4	5.94	mg/l		02/09/99	JPS 1200
TOC	415.1	<1.00	mg/l		02/26/99	***
TDS	160.1	32	mg/l		02/08/99	MCM 1425
METALS						
Aluminum	6010B	0.167	mg/l	02/09/99 0830	02/12/99	FTS 1938
Arsenic	6010B	<0.005	mg/l	02/09/99 0830	02/12/99	FTS 1938
Barium	6010B	0.114	mg/l	02/09/99 0830	02/12/99	FTS 1938
Cadmium	6010B	<0.002	mg/l	02/09/99 0830	02/12/99	FTS 1938
Calcium	6010B	2.19	mg/l	02/09/99 0830	02/12/99	FTS 1938
Chromium	6010B	<0.005	mg/l	02/09/99 0830	02/12/99	FTS 1938
Copper	6010B	0.012	mg/l	02/09/99 0830	02/12/99	FTS 1938
Iron	6010B	0.133	mg/l	02/09/99 0830	02/12/99	FTS 1938
Lead	6010B	<0.005	mg/l	02/09/99 0830	02/12/99	FTS 1938
Magnesium	6010B	1.16	mg/l	02/09/99 0830	02/12/99	FTS 1938
Manganese	6010B	0.018	mg/l	02/09/99 0830	02/12/99	FTS 1938

Parameters	Method	Result	Units	Date	Date	Anal.
				Prepared	Analyzed	
Mercury	7470A	0.001	mg/l	02/11/99 0830	02/12/99 0900	FTC
Nickel	6010B	<0.010	mg/l	02/09/99 0830	02/12/99 1938	FTS
Potassium	6010B	0.424	mg/l	02/09/99 0830	02/17/99 1546	FTS
Selenium	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1938	FTS
Silver	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1938	FTS
Sodium	6010B	2.83	mg/l	02/09/99 0830	02/12/99 1938	FTS
Zinc	6010B	0.039	mg/l	02/09/99 0830	02/12/99 1938	FTS
Dissolved Copper	6010B	0.007	mg/l	02/09/99 0830	02/12/99 1933	FTS

SHEALY ENVIRONMENTAL SERVICES, INC.

Scientists and Consultants

106 VANTAGE POINT DRIVE
CAYCE, SOUTH CAROLINA 29033

CERTIFICATE OF ANALYSIS

(803) 791-9700
FAX (803) 791-9111
www.shealyenvironmental.com

SC DHEC No. 32010

NC DEHNR No. 329

Client: NEVADA GOLDFIELDS
PO Box 1530
McCormick, SC 29835

Attention: Scott Wilkinson

SHEALY Lab No: 157916
Description: GW-6

Coll. Date: 02/04/99
Coll. Time:

Date Received: 02/05/99
Date Reported: 03/02/99

QA/QC Officer MA
V.P. Analytical MA

*** SCDHEC Cert. #40111

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Well Depth		28.40	ft.		02/04/99	GWS
Water Level Depth From Top of Casing		2.65	ft.		02/04/99	GWS
pH-Field at 19.0 C	150.1	6.47	SU		02/04/99	GWS
Specific Conductance at 25 C - Field	120.1	226	umhos/cm		02/04/99	GWS
Temperature-Field	170.1	19.0	C		02/04/99	GWS
INORGANICS						
Alkalinity Bicarbonate	SM4500D	68.8	mg/l		02/13/99	NWD 0934
Ammonia-N	350.3	<0.100	mg/l		02/09/99	EDN 0900
Chloride	300.0	28.5	mg/l		02/09/99	JPS 1200
Cyanide-Total	335.2	0.011	mg/l	02/17/99	02/18/99	JPS 1200
Fluoride-Total	300.0	<0.500	mg/l	0830	02/09/99	JPS 1200
Nitrate-N	353.2	<0.020	mg/l		02/05/99	NWD 0938
Nitrite-N	354.1	<0.020	mg/l		02/05/99	NWD 0938
Sulfate	375.4	8.82	mg/l		02/09/99	JPS 1200
TOC	415.1	<1.00	mg/l		02/26/99	***
TDS	160.1	84	mg/l		02/08/99	MCM 1425
METALS						
Aluminum	6010B	0.438	mg/l	02/09/99	02/12/99	FTS 0830 1918
Arsenic	6010B	<0.005	mg/l	02/09/99	02/12/99	FTS 0830 1918
Barium	6010B	0.015	mg/l	02/09/99	02/12/99	FTS 0830 1918
Cadmium	6010B	<0.002	mg/l	02/09/99	02/12/99	FTS 0830 1918
Calcium	6010B	14.8	mg/l	02/09/99	02/12/99	FTS 0830 1918
Chromium	6010B	<0.005	mg/l	02/09/99	02/12/99	FTS 0830 1918
Copper	6010B	<0.005	mg/l	02/09/99	02/12/99	FTS 0830 1918
Iron	6010B	0.462	mg/l	02/09/99	02/12/99	FTS 0830 1918
Lead	6010B	<0.005	mg/l	02/09/99	02/12/99	FTS 0830 1918
Magnesium	6010B	7.48	mg/l	02/09/99	02/12/99	FTS 0830 1918
Manganese	6010B	0.052	mg/l	02/09/99	02/12/99	FTS 0830 1918

Parameters	Method	Result	Units	Date	Date	Anal.
				Prepared	Analyzed	
Mercury	7470A	<0.0001	mg/l	02/11/99 0830	02/12/99 0900	FTC
Nickel	6010B	<0.010	mg/l	02/09/99 0830	02/12/99 1918	FTS
Potassium	6010B	0.435	mg/l	02/09/99 0830	02/17/99 1540	FTS
Selenium	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1918	FTS
Silver	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1918	FTS
Sodium	6010B	20.3	mg/l	02/09/99 0830	02/12/99 1918	FTS
Zinc	6010B	0.014	mg/l	02/09/99 0830	02/12/99 1918	FTS
Dissolved Copper	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1913	FTS

SHEALY ENVIRONMENTAL SERVICES, INC.

Scientists and Consultants

106 VANTAGE POINT DRIVE
CAYCE, SOUTH CAROLINA 29033

CERTIFICATE OF ANALYSIS

(803) 791-9700
FAX (803) 791-9111
www.shealyenvironmental.com

SC DHEC No. 32010

NC DEHNR No. 329

Client: NEVADA GOLDFIELDS
PO Box 1530
McCormick, SC 29835

Attention: Scott Wilkinson

SHEALY Lab No: 157915
Description: B-2

Coll. Date: 02/04/99
Coll. Time:

Date Received: 02/05/99
Date Reported: 03/02/99

QA/QC Officer MA
V.P. Analytical MA

*** SCDHEC Cert. #40111

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Well Depth		121.00	ft.		02/04/99	GWS
Water Level Depth From Top of Casing		19.65	ft.		02/04/99	GWS
pH-Field at 18.0 C	150.1	6.84	SU		02/04/99	GWS
Specific Conductance at 25 C - Field	120.1	231	umhos/cm		02/04/99	GWS
Temperature-Field	170.1	18.0	C		02/04/99	GWS
INORGANICS						
Alkalinity Bicarbonate	SM4500D	112	mg/l		02/13/99	NWD 0934
Ammonia-N	350.3	<0.100	mg/l		02/09/99	EDN 0900
Chloride	300.0	9.09	mg/l		02/09/99	JPS 1200
Cyanide-Total	335.2	0.011	mg/l	02/17/99 0830	02/18/99	JPS 1200
Fluoride-Total	300.0	<0.500	mg/l		02/09/99	JPS 1200
Nitrate-N	353.2	0.027	mg/l		02/05/99	NWD 0938
Nitrite-N	354.1	<0.020	mg/l		02/05/99	NWD 0938
Sulfate	375.4	10.1	mg/l		02/09/99	JPS 1200
TOC	415.1	<1.00	mg/l		02/26/99	***
TDS	160.1	172	mg/l		02/08/99	MCM 1425
METALS						
Aluminum	6010B	0.193	mg/l	02/09/99 0830	02/12/99	FTS 1908
Arsenic	6010B	<0.005	mg/l	02/09/99 0830	02/12/99	FTS 1908
Barium	6010B	0.189	mg/l	02/09/99 0830	02/12/99	FTS 1908
Cadmium	6010B	<0.002	mg/l	02/09/99 0830	02/12/99	FTS 1908
Calcium	6010B	38.5	mg/l	02/09/99 0830	02/12/99	FTS 1908
Chromium	6010B	<0.005	mg/l	02/09/99 0830	02/12/99	FTS 1908
Copper	6010B	<0.005	mg/l	02/09/99 0830	02/12/99	FTS 1908
Iron	6010B	1.05	mg/l	02/09/99 0830	02/12/99	FTS 1908
Lead	6010B	<0.003	mg/l	02/09/99 0830	02/12/99	FTS 1908
Magnesium	6010B	5.68	mg/l	02/09/99 0830	02/12/99	FTS 1908
Manganese	6010B	0.395	mg/l	02/09/99 0830	02/12/99	FTS 1908

Parameters	Method	Result	Units	Date	Date	Anal.
				Prepared	Analyzed	
Mercury	7470A	<0.0001	mg/l	02/11/99 0830	02/12/99 0900	FTC
Nickel	6010B	<0.010	mg/l	02/09/99 0830	02/12/99 1908	FTS
Potassium	6010B	1.88	mg/l	02/09/99 0830	02/17/99 1540	FTS
Selenium	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1908	FTS
Silver	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1908	FTS
Sodium	6010B	11.6	mg/l	02/09/99 0830	02/12/99 1908	FTS
Zinc	6010B	0.035	mg/l	02/09/99 0830	02/12/99 1908	FTS
Dissolved Copper	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1847	FTS

SHEALY ENVIRONMENTAL SERVICES, INC.

Scientists and Consultants

106 VANTAGE POINT DRIVE
CAYCE, SOUTH CAROLINA 29033

CERTIFICATE OF ANALYSIS

(803) 791-9700
FAX (803) 791-9111
www.shealyenvironmental.com

SC DHEC No. 32010

NC DEHNR No. 329

Client: NEVADA GOLDFIELDS
PO Box 1530
McCormick, SC 29835

Attention: Scott Wilkinson

SHEALY Lab No: 157919
Description: D3A

Coll. Date: 02/04/99
Coll. Time:

Date Received: 02/05/99
Date Reported: 02/18/99

QA/QC Officer man
V.P. Analytical MP

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
METALS						
Aluminum	6010B	0.230	mg/l	02/09/99 0830	02/12/99 1949	FTS
Arsenic	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1949	FTS
Barium	6010B	0.007	mg/l	02/09/99 0830	02/12/99 1949	FTS
Cadmium	6010B	<0.002	mg/l	02/09/99 0830	02/12/99 1949	FTS
Calcium	6010B	54.9	mg/l	02/09/99 0830	02/12/99 1949	FTS
Chromium	6010B	0.009	mg/l	02/09/99 0830	02/12/99 1949	FTS
Copper	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1949	FTS
Iron	6010B	0.259	mg/l	02/09/99 0830	02/12/99 1949	FTS
Lead	6010B	<0.003	mg/l	02/09/99 0830	02/12/99 1949	FTS
Magnesium	6010B	19.9	mg/l	02/09/99 0830	02/12/99 1949	FTS
Manganese	6010B	0.054	mg/l	02/09/99 0830	02/12/99 1949	FTS
Mercury	7470A	<0.0001	mg/l	02/11/99 0830	02/12/99 0900	FTC
Nickel	6010B	0.024	mg/l	02/09/99 0830	02/12/99 1949	FTS
Potassium	6010B	1.71	mg/l	02/09/99 0830	02/17/99 1549	FTS
Selenium	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1949	FTS
Silver	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1949	FTS
Sodium	6010B	24.5	mg/l	02/09/99 0830	02/12/99 1949	FTS
Zinc	6010B	0.047	mg/l	02/09/99 0830	02/12/99 1949	FTS
Dissolved Copper	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1943	FTS

SHEALY ENVIRONMENTAL SERVICES, INC.

Scientists and Consultants

106 VANTAGE POINT DRIVE
CAYCE, SOUTH CAROLINA 29033

CERTIFICATE OF ANALYSIS

(803) 791-9700
FAX (803) 791-9111
www.shealyenvironmental.com

SC DHEC No. 32010

NC DEHNR No. 329

Client: NEVADA GOLDFIELDS
PO Box 1530
McCormick, SC 29835

Attention: Scott Wilkinson

SHEALY Lab No: 157920FB
Description: F. Blank

Coll. Date: 02/04/99
Coll. Time:

Date Received: 02/05/99
Date Reported: 03/02/99

QA/QC Officer Man
V.P. Analytical MP

*** SCDHEC Cert. #40111

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
INORGANICS						
Alkalinity Bicarbonate	SM4500D	<10.0	mg/l		02/13/99	NWD 0934
Ammonia-N	350.3	<0.100	mg/l		02/09/99	EDN 0900
Chloride	300.0	<1.00	mg/l		02/09/99	JPS 1200
Cyanide-Total	335.2	<0.010	mg/l	02/17/99	02/18/99	JPS 1200
Fluoride-Total	300.0	<0.500	mg/l	0830	02/09/99	JPS 1200
Nitrate-N	353.2	<0.020	mg/l		02/05/99	NWD 0938
Nitrite-N	354.1	<0.020	mg/l		02/05/99	NWD 0938
Sulfate	375.4	<1.00	mg/l		02/09/99	JPS 1200
TOC	415.1	<1.00	mg/l		02/26/99	***
TDS	160.1	<10	mg/l		02/08/99	MCM 1425
METALS						
Aluminum	6010B	<0.050	mg/l	02/09/99	02/12/99	FTS 0830 2014
Arsenic	6010B	<0.005	mg/l	02/09/99	02/12/99	FTS 0830 2014
Barium	6010B	<0.005	mg/l	02/09/99	02/12/99	FTS 0830 2014
Cadmium	6010B	<0.002	mg/l	02/09/99	02/12/99	FTS 0830 2014
Calcium	6010B	<0.050	mg/l	02/09/99	02/12/99	FTS 0830 2014
Chromium	6010B	<0.005	mg/l	02/09/99	02/12/99	FTS 0830 2014
Copper	6010B	<0.005	mg/l	02/09/99	02/12/99	FTS 0830 2014
Iron	6010B	<0.050	mg/l	02/09/99	02/12/99	FTS 0830 2014
Lead	6010B	<0.003	mg/l	02/09/99	02/12/99	FTS 0830 2014
Magnesium	6010B	<0.030	mg/l	02/09/99	02/12/99	FTS 0830 2014
Manganese	6010B	<0.015	mg/l	02/09/99	02/12/99	FTS 0830 2014
Mercury	7470A	<0.0001	mg/l	02/11/99	02/12/99	FTC 0830 0900
Nickel	6010B	<0.010	mg/l	02/09/99	02/12/99	FTS 0830 2014

Parameters	Method	Result	Units	Date	Date	Anal.
				Prepared	Analyzed	
Potassium	6010B	<0.200	mg/l	02/09/99 0830	02/17/99 1551	FTS
Selenium	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 2014	FTS
Silver	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 2014	FTS
Sodium	6010B	<0.100	mg/l	02/09/99 0830	02/12/99 2014	FTS
Zinc	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 2014	FTS
Dissolved Copper	6010B	<0.005	mg/l	02/09/99 0830	02/12/99 1954	FTS

DEPTH TO GROUNDWATER SUMMARY

NEVADA GOLDFIELDS McCormick, SC

<u>WELL NUMBER</u>	<u>DGW (feet)</u>
D-3	31.5
GW-N	12.0
GW-O	20.1
GW-5	10.8
L-2	30.1
F-3	42.5
A-3	30.9
GW-6	2.65
B-2	19.7

SHEALY ENVIRONMENTAL SERVICES, INC.

106 Vantage Pointe Drive

Cayce, South Carolina 29033

Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Page ____ of ____

CHAIN OF CUSTODY #

Client Name Nevada Gold Fields

Reporting Address

McCormick SCAttention S. Wilkerson

Telephone No. _____ P.O. No. _____

CHAIN OF CUSTODY RECORD

SAMPLE ANALYSIS REQUIRED

NPDES # _____

County _____

Receiving Stream _____

Outfall No. _____

Sample ID (Location)	Yr <u>1999</u> DATE	TIME	WELL	SOLID	COMP	GRAB	# of containers	pH, Conductivity	BOD	Nutrients - Specify	METALS - Specify	TOC/TOX - Specify	BTX	VOC - Specify Method Required	Pesticides/PCBs - Specify	Herbicides	Total Phenol	Oil & Grease	BINAs	Solids - Specify	Cyanide	Confirms - Specify Type	Toxicity - Specify	General	DISSOLVED METALS	← PRESERVATION (CODE)	LAB USE ONLY
																										CODE: A = None B = HNO ₃ C = H ₂ SO ₄ D = NaOH E = ICE F = _____	Program Area (Circle) DW CWA/NPDES RCRA SP/SOL <u>SP/LIQ</u> Other: _____
REMARKS																								SESI LAB I.D.			
A-3	Start 2 Feb Finish	1145					5			✓	✓										✓			✓	✓	Gen - TDS, Alk, Sulfate Nitrate-N, Chloride	157516
L-2 DISMPC	Start 2 Feb Finish	1255					5			✓	✓										✓			✓	✓	Nutr - Nitrate-N, TOC, Ammonia	157517
GWS	Start 2 Feb Finish	1330					5																			Metals - As, Hg, Se, Pb, Al, Ba, Cd, Cu, Cr, Co	157518
GW O	Start 2 Feb Finish	1420					5																			Fe, Mg, Ni, K, Ag, Na, Zn	157519
	Start Finish																									Dissolved Metal Cu	
	Start Finish																									Dissolved Metal - must be filtered	
	Start Finish																										
	Start Finish																										

SAMPLER <u>MILTON QUATTLEBAUM</u> Print Name: <u>Milton Quattlebaum</u> Signature:	Date/Time <u>2 Feb 99</u> <u>1655</u>	Received by (Sig.) <u>[Signature]</u>	Date/Time _____	Hazards Associated with Sample _____ _____ _____	Custody Seal Intact (Circle) YES NO NONE	
	Relinquished by (Sig.)	Date/Time _____	Received by (Sig.) <u>[Signature]</u>		Date/Time _____	Receipt TRC _____ mg/l Receipt pH _____ su Receipt Temp. <u>3.8</u> °C
	Relinquished by (Sig.)	Date/Time _____	Lab Receipt by (Sig.) <u>[Signature]</u>		Date/Time <u>2 Feb 99</u> <u>1655</u>	Received on Ice (Circle) YES NO ICE PACK

Telephone No. _____ P.O. No. _____

SAMPLE ANALYSIS REQUIRED

Field Data Information Sheet For Groundwater Sampling

Page ____ of ____

157914
Shealy Environmental Services, Inc.
106 Vantage Point Drive
Cayce, S.C. 29033

Date (MM-DD-YY)	February 24 1999	Casing Diameter: 2 inches	Casing Material: <input checked="" type="radio"/> PVC <input type="radio"/> Metal
Field Personnel	GWS, (MPO)	Guard Pipe: PVC - <input checked="" type="radio"/> Metal <input type="radio"/> No	Locking Cap: <input checked="" type="radio"/> Y <input type="radio"/> N
Facility Name	NEVADA GOLDFIELDS, INC.	Protective Abutment: Y <input checked="" type="radio"/> N	Integrity Satisfactory: <input checked="" type="radio"/> Y <input type="radio"/> N
Well ID #	D-3	Well Yield: Low - Mod. - High	
Weather Conditions	OVERCAST	Air Temperature	°C.
Total Well Depth (TWD) =	81.00	Remarks:	
Depth To Groundwater (DGW) =	31.50		
Length Of Water Column (LWC) =	49.50		
1 Casing Volume (OCV) = LWC x ϕ 163	= 8.1		
3 Casing Volumes =	24.3	gal. = Standard Evacuation Volume	
Total Volume of Water Removed =		gal.	
Method of Well Evacuation	<input checked="" type="radio"/> SSB <input type="radio"/> WW <input checked="" type="radio"/> GP Other _____		
Method of Sample Collection	<input checked="" type="radio"/> TB <input type="radio"/> SSB <input type="radio"/> WW <input type="radio"/> GP Other _____		

Evacuation and Collection Methods

TB - Teflon Bailer
SSB - Stainless Steel Bailer
WW - Well Wizard
GP - Grunfos Pump

Constants for Casing Diameters

1.5" = 0.092 5" = 1.02
2" = 0.163 6" = 1.47
3" = 0.367 7" = 2.00
4" = 0.652 8" = 2.61

FIELD ANALYSES

VOLUME PURGED (GALLONS)

TIME (24 HOUR SYSTEM)

pH (SU)

WATER TEMPERATURE (°C.)

SP. CONDUCTIVITY (UMHOS/CM)

TURBIDITY (SUBJECTIVE)*

ODOR (SUBJECTIVE)**

* 1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH

** 1 = NONE 2 = FAINT 3 = MODERATE 4 = STRONG

	1st	8.1	16.2	24.3		WELL SAMPLE TIME: 1110
	1040	1044	1049	1054		Remarks:
	6.29	6.38	6.41	6.43		
	18.0	19	19	19		
	480	470	460	450		
	1	1	1	1		
	1	1	1	1		

Field Data Information Sheet For Groundwater Sampling

Page ____ of ____

917
Shealy Environmental Services, Inc.
106 Vantage Point Drive
Cayce, S.C. 29033

Date (MM-DD-YY)	February 4 1999	Casing Diameter: 2 inches	Casing Material: <u>PVC</u> Metal
Field Personnel	GWS, MPQ	Guard Pipe: PVC - <u>Metal</u> No	Locking Cap: <u>Y</u> N
Facility Name	NEVADA GOLDFIELDS, INC.	Protective Abutment: Y <u>N</u>	Integrity Satisfactory: <u>Y</u> N
Well ID #	GW-N	Well Yield: Low - <u>Mod</u> - High	
Weather Conditions	Clear, Windy	Air Temperature	°C.
Total Well Depth (TWD) =	27.02	Remarks:	
Depth To Groundwater (DGW) =	12.0		
Length Of Water Column (LWC) =	15.02		
1 Casing Volume (OCV) = LWC x	.163 = 2.45		
3 Casing Volumes =	7.34		
Total Volume of Water Removed =			
Method of Well Evacuation	<u>TB</u> SSB WW GP Other		
Method of Sample Collection	<u>TB</u> SSB WW GP Other		

Evacuation and Collection Methods

TB - Teflon Bailer
SSB - Stainless Steel Bailer
WW - Well Wizard
GP - Grunfos Pump

Constants for Casing Diameters

1.5" = 0.092 5" = 1.02
2" = 0.163 6" = 1.47
3" = 0.367 7" = 2.00
4" = 0.652 8" = 2.61

FIELD ANALYSES

VOLUME PURGED (GALLONS)

TIME (24 HOUR SYSTEM)

pH (SU)

WATER TEMPERATURE (°C.)

SP. CONDUCTIVITY (UMHOS/CM)

TURBIDITY (SUBJECTIVE)*

ODOR (SUBJECTIVE)**

* 1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH

** 1 = NONE 2 = FAINT 3 = MODERATE 4 = STRONG

1st	2.45	4.90	7.35		WELL SAMPLE TIME: 1156
1136	1140	1146	1150		Remarks: X
6.47	6.69	6.74	6.86		
17	16	17	17		
430	410	400	400		
1	1	2	2		
1	1	1	1		

Field Data Information Sheet For Groundwater Sampling

Page ____ of ____

519
Shealy Environmental Services, Inc.
106 Vantage Point Drive
Cayce, S.C. 29033

Date (MM-DD-YY)	February 2 1999	Casing Diameter: 2 inches	Casing Material: <u>PVC</u> Metal	
Field Personnel	GWS, MPQ	Guard Pipe: PVC - <u>Metal</u> - No	Locking Cap: <u>Y</u> N	
Facility Name	NEVADA GOLDFIELDS, INC.	Protective Abutment: Y - <u>N</u>	Integrity Satisfactory: <u>Y</u> N	
Well ID #	GWO	Well Yield: Low - Mod. - High		
Weather Conditions	Clear, windy	Air Temperature	°C.	
Total Well Depth (TWD) =	28.62	Remarks: Dry @ 28 gals		
Depth To Groundwater (DGW) =	20.05			
Length Of Water Column (LWC) =	8.57			
1 Casing Volume (OCV) = LWC x	0.163 = 1.4			gal.
3 Casing Volumes =	4.2			gal. = Standard Evacuation Volume
Total Volume of Water Removed =				gal.
Method of Well Evacuation	<u>TB</u> SSB WW GP Other			
Method of Sample Collection	<u>TB</u> SSB WW GP Other			

Evacuation and Collection Methods

TB - Teflon Bailer
SSB - Stainless Steel Bailer
WW - Well Wizard
GP - Grunfos Pump

Constants for Casing Diameters

1.5" = 0.092 5" = 1.02
2" = 0.163 6" = 1.47
3" = 0.367 7" = 2.00
4" = 0.652 8" = 2.61

FIELD ANALYSES

VOLUME PURGED (GALLONS)

TIME (24 HOUR SYSTEM)

pH (SU)

WATER TEMPERATURE (°C.)

SP. CONDUCTIVITY (UMHOS/CM)

TURBIDITY (SUBJECTIVE)*

ODOR (SUBJECTIVE)**

* 1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH

** 1 = NONE 2 = FAINT 3 = MODERATE 4 = STRONG

1.5	1.4	2.8			WELL SAMPLE TIME: 1420
1400	1402	1404			Remarks:
6.63	6.70	6.70			
17	17	17			
340	335	330			
1	1	1			
1	1	1			

Field Data Information Sheet For Groundwater Sampling

Page ____ of ____

518
Shealy Environmental Services, Inc.
106 Vantage Point Drive
Cayce, S.C. 29033

Date (MM-DD-YY)	February 2 1999	Casing Diameter: 4 inches	Casing Material: PVC - Metal
Field Personnel	GWS, MPQ	Guard Pipe: PVC - Metal - No	Locking Cap: Y - N
Facility Name	NEVADA GOLDFIELDS, INC.	Protective Abutment: Y - (N)	Integrity Satisfactory: (Y) - N
Well ID #	GW-5	Well Yield: Low - Mod. - High	
Weather Conditions	OVERCAST / WINDY	Air Temperature	°C.
Total Well Depth (TWD) =	37.80	Remarks: Dye 17.6	
Depth To Groundwater (DGW) =	10.80		
Length Of Water Column (LWC) =	27.00		
1 Casing Volume (OCV) = LWC x 0.652	= 17.6 gal.		
3 Casing Volumes =	52.3 gal. = Standard Evacuation Volume		
Total Volume of Water Removed =	gal.		
Method of Well Evacuation	(TB) SSB WW GP Other		
Method of Sample Collection	(TB) SSB WW GP Other		

Evacuation and Collection Methods

TB - Teflon Bailer
SSB - Stainless Steel Bailer
WW - Well Wizard
GP - Grunfos Pump

Constants for Casing Diameters

1.5" = 0.092	5" = 1.02
2" = 0.163	6" = 1.47
3" = 0.367	7" = 2.00
4" = 0.652	8" = 2.61

FIELD ANALYSES

VOLUME PURGED (GALLONS)

TIME (24 HOUR SYSTEM)

pH (SU)

WATER TEMPERATURE (°C.)

SP. CONDUCTIVITY (UMHOS/CM)

TURBIDITY (SUBJECTIVE)*

ODOR (SUBJECTIVE)**

* 1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH

** 1 = NONE 2 = FAINT 3 = MODERATE 4 = STRONG

152	17.6				WELL SAMPLE TIME: 1330
1303	1318				Remarks:
7.07	7.10				
15	15				
300	300				
1	4				
1	1				

Field Data Information Sheet For Groundwater Sampling

Page ____ of ____

517
Shealy Environmental Services, Inc.
106 Vantage Point Drive
Cayce, S.C. 29033

Date (MM-DD-YY)	February 2 1999	Casing Diameter: 2 inches	Casing Material: <u>PVC</u> Metal	
Field Personnel	GWS, MPQ	Guard Pipe: <u>PVC</u> Metal - No	Locking Cap: <u>Y</u> - N	
Facility Name	NEVADA GOLDFIELDS, INC.	Protective Abutment: Y - <u>N</u>	Integrity Satisfactory: <u>Y</u> - N	
Well ID #	L-2	Well Yield: Low - Mod. - High		
Weather Conditions	OVERCAST / WINDY	Air Temperature	°C.	
Total Well Depth (TWD) =	81.91	Remarks:		
Depth To Groundwater (DGW) =	30.10			
Length Of Water Column (LWC) =	51.81			
1 Casing Volume (OCV) = LWC x	0.163 = 8.4			gal.
3 Casing Volumes =	25.2			gal. = Standard Evacuation Volume
Total Volume of Water Removed =				gal.
Method of Well Evacuation	<u>TB</u> SSB WW GP Other _____			
Method of Sample Collection	<u>TB</u> SSB WW GP Other _____			

Evacuation and Collection Methods

TB - Teflon Bailer
SSB - Stainless Steel Bailer
WW - Well Wizard
GP - Grunfos Pump

Constants for Casing Diameters

1.5" = 0.092	5" = 1.02
2" = 0.163	6" = 1.47
3" = 0.367	7" = 2.00
4" = 0.652	8" = 2.61

FIELD ANALYSES

VOLUME PURGED (GALLONS)

TIME (24 HOUR SYSTEM)

pH (SU)

WATER TEMPERATURE (°C.)

SP. CONDUCTIVITY (UMHOS/CM)

TURBIDITY (SUBJECTIVE)*

ODOR (SUBJECTIVE)**

* 1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH

** 1 = NONE 2 = FAINT 3 = MODERATE 4 = STRONG

1"	8.4	16.0	25.2		WELL SAMPLE TIME: 1255
1216	1215 020	1234	1246		Remarks:
6.70	6.78	6.88	6.96		
17.0	17.0	17.0	17.0		
270	270	270	270		
1	1	1	1		
1	1	1	1		

Field Data Information Sheet For Groundwater Sampling

Page ____ of ____

418
Shealy Environmental Services, Inc.
106 Vantage Point Drive
Cayce, S.C. 29033

Date (MM-DD-YY)	February 4 1999	Casing Diameter: 2 inches	Casing Material: <u>PVC</u> Metal
Field Personnel	GWS, MPQ	Guard Pipe: PVC <u>Metal</u> No	Locking Cap: <u>Y</u> N
Facility Name	NEVADA GOLDFIELDS, INC.	Protective Abutment: Y - <u>N</u>	Integrity Satisfactory: <u>Y</u> N
Well ID #	E-3	Well Yield: Low <u>Mod</u> - High	
Weather Conditions	Clear, Windy	Air Temperature	°C.
Total Well Depth (TWD) =	71.35	Remarks:	
Depth To Groundwater (DGW) =	42.45		
Length Of Water Column (LWC) =	28.9		
1 Casing Volume (OCV) = LWC x 0.163 =	4.71		
3 Casing Volumes =	14.13		
Total Volume of Water Removed =			
Method of Well Evacuation	<u>TB</u> SSB WW GP Other		
Method of Sample Collection	<u>TB</u> SSB WW GP Other		

Evacuation and Collection Methods

TB - Teflon Bailer
SSB - Stainless Steel Bailer
WW - Well Wizard
GP - Grunfos Pump

Constants for Casing Diameters

1.5" = 0.092	5" = 1.02
2" = 0.163	6" = 1.47
3" = 0.367	7" = 2.00
4" = 0.652	8" = 2.61

FIELD ANALYSES

VOLUME PURGED (GALLONS)

TIME (24 HOUR SYSTEM)

pH (SU)

WATER TEMPERATURE (°C.)

SP. CONDUCTIVITY (UMHOS/CM)

TURBIDITY (SUBJECTIVE)*

ODOR (SUBJECTIVE)**

* 1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH

** 1 = NONE 2 = FAINT 3 = MODERATE 4 = STRONG

1st	4.71	9.42	14.13		WELL SAMPLE TIME:
1512	1523	1533	1542		Remarks:
5.77	5.87	5.65	5.63		
18	18	18	18		
60	50	50	50		
1	1	1	1		
1	1	1	1		

Field Data Information Sheet For Groundwater Sampling

Page ____ of ____

516
Shealy Environmental Services, Inc.
106 Vantage Point Drive
Cayce, S.C. 29033

Date (MM-DD-YY)	February 2 1999	Casing Diameter: 2 inches	Casing Material: PVC Metal
Field Personnel	GWS, MPQ	Guard Pipe: PVC - Metal - No	Locking Cap: N
Facility Name	NEVADA GOLDFIELDS, INC.	Protective Abutment: Y - N	Integrity Satisfactory: N
Well ID #	A-3	Well Yield: Low Mod - High	
Weather Conditions	CLEAR	Air Temperature	°C.
Total Well Depth (TWD) =	73.10	Remarks: MIDDLE WELL IN CLUSTER	
Depth To Groundwater (DGW) =	30.95		
Length Of Water Column (LWC) =	42.25		
1 Casing Volume (OCV) = LWC x	6.163 = 6.9 gal.		
3 Casing Volumes =	20.7 gal. = Standard Evacuation Volume		
Total Volume of Water Removed =	gal.		
Method of Well Evacuation	TB SSB WW GP Other		
Method of Sample Collection	TB SSB WW GP Other		

Evacuation and Collection Methods

TB - Teflon Bailer
SSB - Stainless Steel Bailer
WW - Well Wizard
GP - Grunfos Pump

Constants for Casing Diameters

1.5" = 0.092	5" = 1.02
2" = 0.163	6" = 1.47
3" = 0.367	7" = 2.00
4" = 0.652	8" = 2.61

FIELD ANALYSES

VOLUME PURGED (GALLONS)

TIME (24 HOUR SYSTEM)

pH (SU)

WATER TEMPERATURE (°C.)

SP. CONDUCTIVITY (UMHOS/CM)

TURBIDITY (SUBJECTIVE)*

ODOR (SUBJECTIVE)**

* 1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH

** 1 = NONE 2 = FAINT 3 = MODERATE 4 = STRONG

1.5	6.9	14.	20.7		WELL SAMPLE TIME: 1145
1100	1108	1116	1124		Remarks:
5.75	5.40	5.01	5.04		
15.	15	15	15		
15	15	15	15		
1	1	1	1		
1	1	1	1		

Field Data Information Sheet For Groundwater Sampling

Page ____ of ____

Shealy Environmental Services, Inc.
106 Vantage Point Drive
Cayce, S.C. 29033

Date (MM-DD-YY)	February 4 1999	Casing Diameter: 4 inches	Casing Material: RVC Metal
Field Personnel	GWS, MPQ	Guard Pipe: PVC - Metal - No	Locking Cap: Y N
Facility Name	NEVADA GOLDFIELDS, INC.	Protective Abutment: Y - N	Integrity Satisfactory: Y - N
Well ID #	GW-6	Well Yield: Low - Mod. - High	
Weather Conditions	Clear, Windy	Air Temperature	°C.
Total Well Depth (TWD) =	28.40	Remarks:	
Depth To Groundwater (DGW) =	2.65	Dry at 16.8 gals	
Length Of Water Column (LWC) =	25.75		
1 Casing Volume (OCV) = LWC x	0.652 = 16.8		
3 Casing Volumes =	50.4		
Total Volume of Water Removed =			
Method of Well Evacuation	TB SSB WW GP Other		
Method of Sample Collection	TB SSB WW GP Other		

Evacuation and Collection Methods

TB - Teflon Bailer
SSB - Stainless Steel Bailer
WW - Well Wizard
GP - Grunfos Pump

Constants for Casing Diameters

1.5" = 0.092	5" = 1.02
2" = 0.163	6" = 1.47
3" = 0.367	7" = 2.00
4" = 0.652	8" = 2.61

FIELD ANALYSES

VOLUME PURGED (GALLONS)

TIME (24 HOUR SYSTEM)

pH (SU)

WATER TEMPERATURE (°C.)

SP. CONDUCTIVITY (UMHOS/CM)

TURBIDITY (SUBJECTIVE)*

ODOR (SUBJECTIVE)**

* 1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH

** 1 = NONE 2 = FAINT 3 = MODERATE 4 = STRONG

1st	16.8				WELL SAMPLE TIME: 1448
1430	1440				Remarks:
6.38	6.47				
17	19				
200	200				
1	1				
1	1				

Field Data Information Sheet For Groundwater Sampling

Page ____ of ____

915
Shealy Environmental Services, Inc.
106 Vantage Point Drive
Cayce, S.C. 29033

Date (MM-DD-YY)	February 4 1999	Casing Diameter: 2 inches	Casing Material: <u>PVC</u> Metal
Field Personnel	GWS, MPQ	Guard Pipe: PVC <u>Metal</u> - No	Locking Cap: <u>Y</u> N
Facility Name	NEVADA GOLDFIELDS, INC.	Protective Abutment: Y <u>N</u>	Integrity Satisfactory: <u>Y</u> N
Well ID #	B-2	Well Yield: Low - Mod. <u>High</u>	
Weather Conditions	Clear, Windy	Air Temperature	°C.
Total Well Depth (TWD) =	121.00	Remarks:	
Depth To Groundwater (DGW) =	19.65		
Length Of Water Column (LWC) =	101.35		
1 Casing Volume (OCV) = LWC x 0.163 =	16.52		
3 Casing Volumes =	49.56	gal. = Standard Evacuation Volume	
Total Volume of Water Removed =		gal.	
Method of Well Evacuation	TB SSB WW <u>GP</u> Other _____		
Method of Sample Collection	<u>TB</u> SSB WW GP Other _____		

Evacuation and Collection Methods

TB - Teflon Bailer
SSB - Stainless Steel Bailer
WW - Well Wizard
GP - Grunfos Pump

Constants for Casing Diameters

1.5" = 0.092 5" = 1.02
2" = 0.163 6" = 1.47
3" = 0.367 7" = 2.00
4" = 0.652 8" = 2.61

FIELD ANALYSES

VOLUME PURGED (GALLONS)

TIME (24 HOUR SYSTEM)

pH (SU)

WATER TEMPERATURE (°C.)

SP. CONDUCTIVITY (UMHOS/CM)

TURBIDITY (SUBJECTIVE)*

ODOR (SUBJECTIVE)**

* 1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH

** 1 = NONE 2 = FAINT 3 = MODERATE 4 = STRONG

1 st	16.52	33.04	49.56		WELL SAMPLE TIME: 1418
1325	1336	1350	1404		Remarks:
6.81	6.88	6.95	6.84		
20	19	18	18		
230	210	200	200		
1	1	1	1		
1	1	1	1		

ANALYTICAL METHODOLOGY

NEVADA GOLDFIELDS

McCormick, SC

<u>PARAMETER</u>	<u>EPA METHOD</u>
TDS	160.1
Nitrate	353.2
Nitrite	354.1
Alkalinity-Bicarbonate	SM4500D
Ammonia-N	350.3
Chloride	300.0
Sulfate	300.0/375.4
TOC	415.1
Cyanide	335.2
Fluoride	300.0
Metals: Mercury	7470A
Diss. Metals	6010B
Total Metals (All others)	6010B